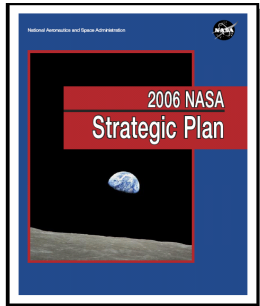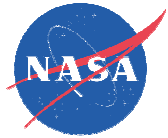# NASA's WORKFORCE IMPLEMENTATION PLAN

MISSION SUCCESS THROUGH THE STRATEGIC MANAGEMENT OF HUMAN CAPITAL

Candace Irwin

Director, Workforce Systems and Accountability
Office of Human Capital Management

Implement Workforce Goals to Enable NASA's Mission

2006 NASA
Strategic Plan

NASA Strategic Goals

Strategic Goal 1: Fly the Shuttle as safely as possible until its retirement, not later than 2010

Strategic Goal 2: Complete the International Space Station in a manner consistent with NASA's International Partner commitments and the needs of human exploration

Strategic Goal 3: Develop a balanced overall program of science, exploration, and aeronautics consistent with the redirection of the human spaceflight program to focus on exploration

Strategic Goal 4: Bring a new Crew Exploration Vehicle into service as soon as possible after Shuttle retirement

Strategic Goal 5: Encourage the pursuit of appropriate partnerships with the emerging commercial space sector

Strategic Goal 6: Establish a lunar return program having the maximum possible utility for later missions to Mars and other destinations

Workforce Goal: Ensure a high performing and flexible, mission-aligned workforce.

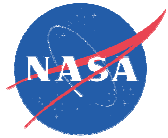**Sub-Goal 1:** Understand Mission Requirements. Integrate Agency-wide workforce planning processes with program and business planning to ensure a flexible, mission-aligned workforce.

Sub Goal 2: Align the Workforce with the Mission. Optimize mission performance through strategies designed to strengthen technical excellence and leadership capabilities.

Sub Goal 3: Enable Effective and Efficient HR Operations. Deliver real time information through a system integrated with Agency business processes to support workforce decision making

NASA's WORKFORCE IMPLEMENTATION PLAN

Identify, acquire and sustain the workforce needed to successfully conduct NASA's current and future missions

1. Understand Mission Requirements

2. Align the Workforce with the Mission

3. Enable Effective and Efficient HR Operations

- Developed in concert with the Mission Directorates, other Mission Support Offices, and the NASA Centers
- Guides and prioritizes all of the work in the Office of Human Capital Management
  - Monitoring and reporting on performance against plan is supported by an automated tracking system
- Aligns with higher level Mission Support Plan and other Agency-level plans, such as NASA Workforce Strategy and Shuttle Human Capital Plan
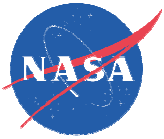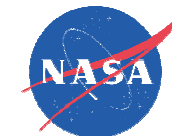
1. UNDERSTANDING MISSION REQUIREMENTS

Execute a robust, comprehensive workforce planning process to enable the right match of people and program

- **Institutionalize workforce planning into the program/budget planning process**

- **Work with the Centers to maximize the utilization of available workforce and skills**

- **"Lengthen the reach" of our workforce planning efforts to provide adequate lead-time for Agency decisions and actions**

PRIMARY OUTCOMES

Identification of:

- Workforce size/composition misalignments that represent a significant risk to mission success and/or institutional viability
- Specific options and initiatives for mitigating these risks

1. UNDERSTANDING MISSION REQUIREMENTS

Completed

- ○ Established workforce planning governance structure
- ○ Participated in development of Shuttle Human Capital Plan
- ○ Enhanced workforce data tools to identify people with programs
- ○ Developed workforce capability measures
- ○ Established a Shuttle Human Capital Council of NASA and contractor HR Directors

Near-Term

- ○ Institutionalize workforce planning into program/budget planning process
- ○ Develop a mapping of the Shuttle workforce to Constellation Program work
- ○ Develop process for periodic WIMS data submissions
- ○ Engage with Mission Directorates and Centers in scenario planning

Long-Term

- ○ Work with Mission Directorates to improve planning guidance
- ○ Complete assessments of Center workforce "health"
- ○ Enhance workforce planning capability throughout Agency
- ○ Continue to track, manage Shuttle workforce transition; work with Constellation acquisition process to ensure consideration of workforce issues
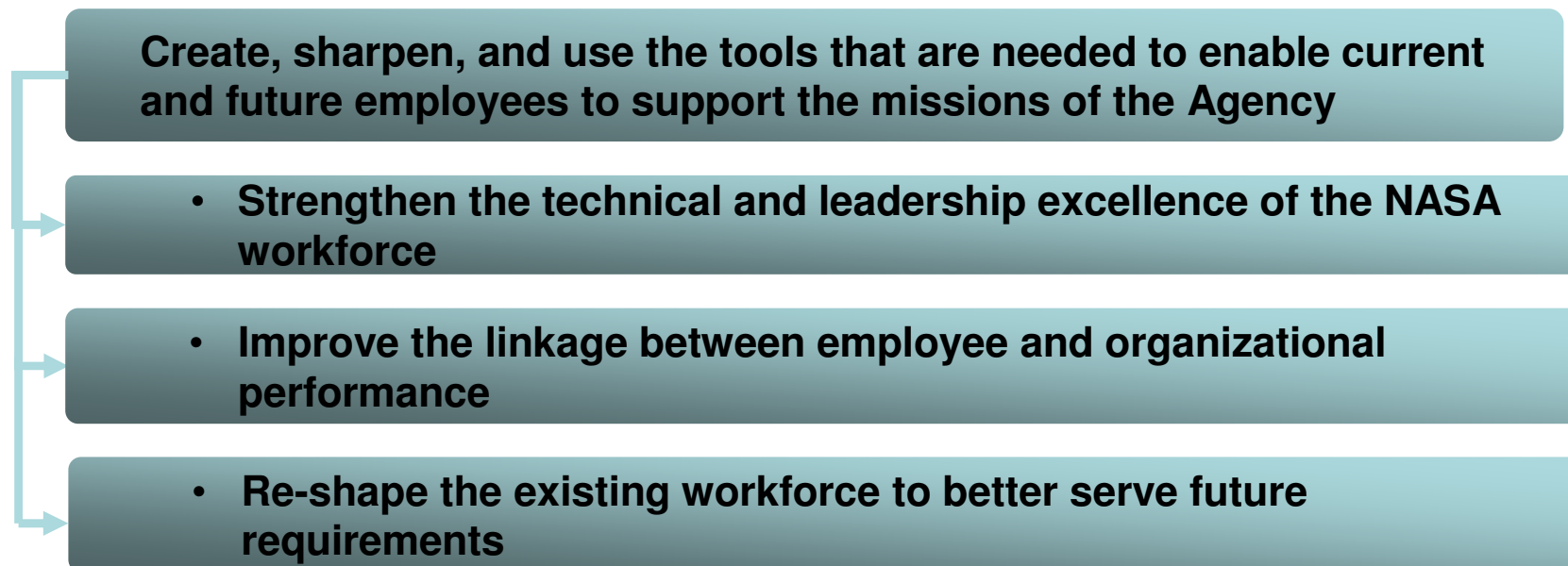
Transition and the Workforce

- Unique Challenges:
  - **_Retaining Skills_** Necessary to Safely Execute Remaining Space Shuttle Missions; **_and_**
  - **_Managing Transition_** of Appropriate Shuttle Workforce into Constellation Development; **_and_**
  - **_Retaining Skills_** Between FY2010 and FY2014 Necessary to Safely Execute Constellation Flight Operations (Orion/Ares I IOC - 2014)

- Approach to Ensure Critical Skills Retained:
  - Provide Challenging, Exciting Follow-on Work in Constellation (and Other Programs)
  - Maintain NASA's Quality Workplace: Providing Collaborative and Creative Environment, Supporting Career Development, Learning Opportunities

- NASA is Committed to Transitioning as Much of the Shuttle Civil Service Workforce to Other Agency Programs as is Practicable, Using Strategies such as:
  - Workforce Sharing, Matrixing, Detailing
  - Retraining
  - Identify Opportunities for Placement of Employees with Needed Skills in Other Organizations

- NASA is Committed to Working with our Space Shuttle Program Contractor Partners on Workforce Issues.
  - Industry has a Range of Transition, Retention, and Staffing Tools Available to Maintain Critical Skills to Meet their Contractual Obligations Required for Shuttle Mission Execution.
  - Unique to Each Contractor Situation and their Known Role in Future Constellation Work

2. ALIGNING THE WORKFORCE WITH THE MISSION

Create, sharpen, and use the tools that are needed to enable current and future employees to support the missions of the Agency

• Strengthen the technical and leadership excellence of the NASA workforce

• Improve the linkage between employee and organizational performance

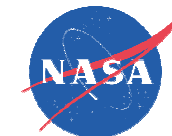• Re-shape the existing workforce to better serve future requirements

PRIMARY OUTCOMES

Improvement in the NASA Mission Capability Index:

– Employee motivation

– Employee training
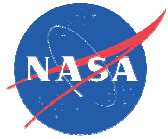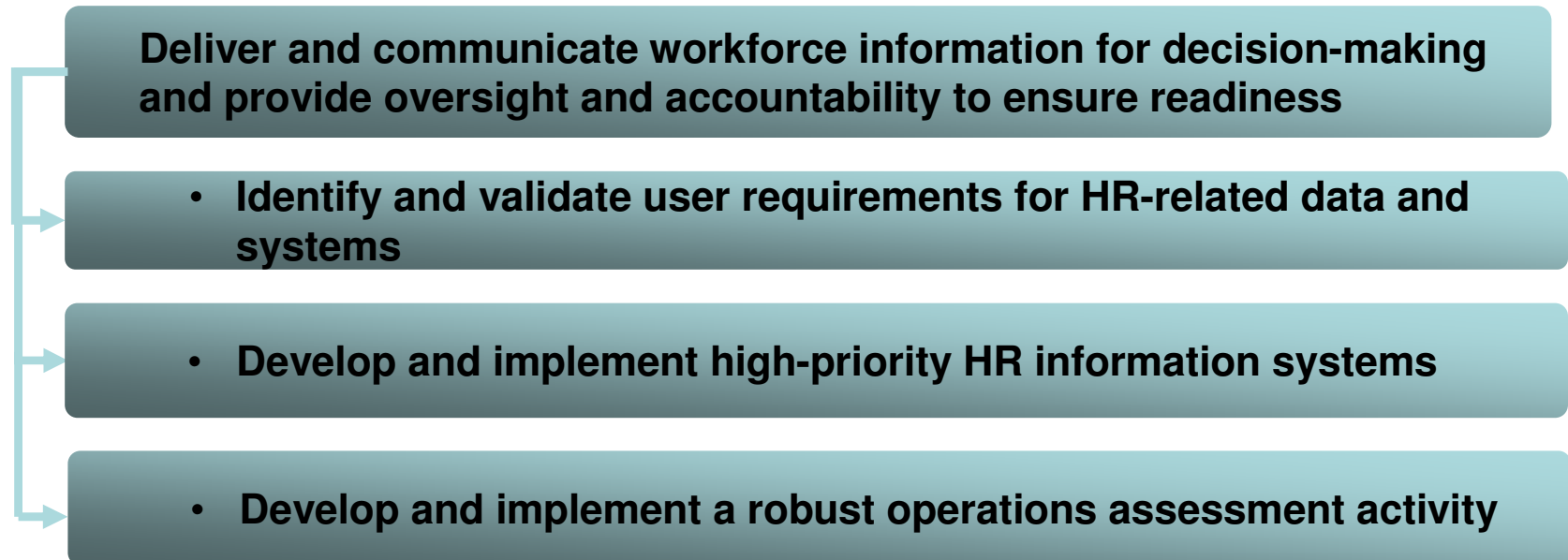
– Understanding of employee roles

2. ALIGNING THE WORKFORCE WITH THE MISSION

Completed

○ **Completed evaluation of leadership development programs**

○ **Inaugurated initial NASA FIRST class**

○ **Developed leadership model and leadership succession plan**

○ **Revise the performance management program to 5-levels**

Near-Term

○ **Deploying the Individual Development Plans in SATERN**

○ **Expand program and project management training**

○ **Manage transition activities using available tools**

○ **Develop Agencywide career path and mentoring frameworks**

Long-Term

○ **Deploy Agencywide mentoring to support technical, leadership excellence**

○ **Develop industry fellowship program**

○ **Implement succession management system**

○ **Institutionalize career paths for all technical and support disciplines, including program/project management and systems engineering**

3. ENABLING EFFECTIVE AND EFFICIENT OPERATIONS

Deliver and communicate workforce information for decision-making and provide oversight and accountability to ensure readiness

- **Identify and validate user requirements for HR-related data and systems**

- **Develop and implement high-priority HR information systems**

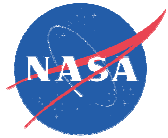- **Develop and implement a robust operations assessment activity**

PRIMARY OUTCOMES

- Improvement in the HC Information System Use Index:
  - Managerial use of Human Capital information systems
  - Employee use of Human Capital information systems
  - Decrease in stove-piped, legacy systems

3. ENABLING EFFECTIVE AND EFFICIENT OPERATIONS

Completed

- ○ Developed, deployed informational/transactional web sites (NASA People, NASA Jobs, Employee Orientation)
- ○ Developed, implemented HC accountability program
- ○ Deploy HR portal to HR community in prep for deployment of HCIE
- ○ Developed, deployed Agency-wide HR systems (NASA STARS, PDM, SATERN, NAAS, CMS, NOPS, NEBS, WTTS)

Near-Term

- ○ Enhance CMS tool to increase capability for workforce planning
- ○ Integrate CMS and SATERN to enable competency-based training decisions
- ○ Assess efficiency of Center HC programs
- ○ Enhance WTTS to support HSPD-12, providing authoritative data source for credentialing and personal identity

Long-Term

- ○ Deploy HR portal to all NASA civil servants
- ○ Deploy final operating capability of HCIE, establishing personnel data warehouse and integrated subset of info from variety of Agencywide HR systems
- ○ Communicate and market HC information system capabilities and benefits

What is the HCIE?

HCIE is NASA's Human Capital Information Environment that aligns with the Agency's Enterprise Architecture and provides:

✓ Authoritative Data Repository (ADR) for HC information
  – Federal Personnel Payroll Information
  – Awards Information
  – Recruitment and Hiring Information
  – Performance Information
  – Training Information and Individual Development Plans
  – Competency Information
  – Workforce Planning Information

✓ Integrated family of systems to support HC processes
  – Integration of Agency-wide systems with Personnel Data Warehouse (PDW)
  – Use of Extract, Transform, and Load (ETL) technology to integrate data from disparate systems into a common language and load it into a data warehouse for maximum useability.
  – Access to the PDW through Workforce Services Portal segmented by communities of interest.

✓ Integrated database to support internal and external systems
  – SAP
  – IDMS and NAMS (personal identity or credentialing systems)
  – Security systems, such as e-QIP
  – EEO systems for diversity reporting
  – Federal Shared Service Centers and OPM
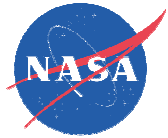
Competency Management System

- ## The CMS dictionary categorizes the Agency's corporate knowledge in the form of "competencies"

  Competency management allows you to systematically measure and monitor the Agency's corporate knowledge base.

- ## Competencies are used to measure and understand the capability of the workforce

  The CMS provides employees, organizations, and functional communities with the capability to find employees, positions, or projects that utilize competencies.It also helps to show the relationship between what employee's know, versus what is required to perform a particular job, versus what the workforce requirements are to accomplish the mission.

- ## Forecasted demand compared with current workforce capabilities enable Senior Executive Leadership to strategically manage projected gaps

  Competency management allows you to make adjustments strategically to meet future program needs. It provides the decision makers with additional information that can be used to set the priorities on various human capital programs, which will result in shifting the knowledge base of the organization to meet the future workforce demands of the agency.

- ## Integration with employee development programs helps to align training needs with the agency's workforce plans

  Competency Management will help to integrate the business process and information between workforce planning and employee development. This will enable the agency to more effectively provide training content and employee development activities that are in alignment with both the future strategic direction of the agency, as well as supporting it's current mission

- ## CMS can help connect the right information to the right employees

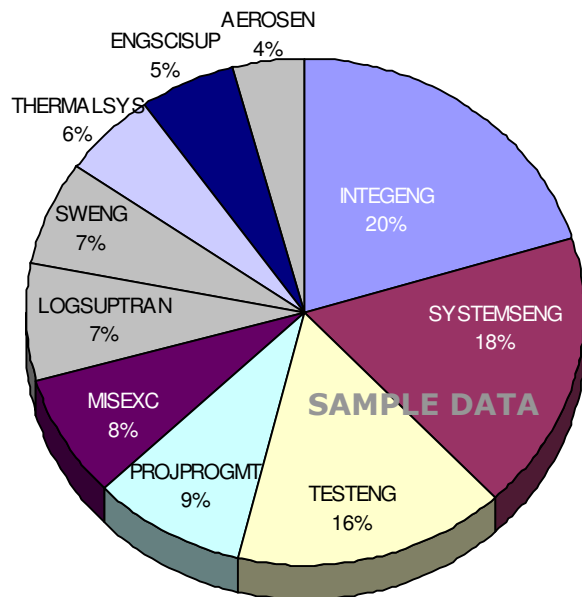 *Competency information can help link together people with the same or similar competencies into communities of practice, which can then be connected to information that is relevant to that community. Other resources in the Agency, (such as lab facilities, technology reports, lessons learned, etc..) are able to utilize the competency dictionary as a taxonomy to relate and deliver the right information to the right employees.*
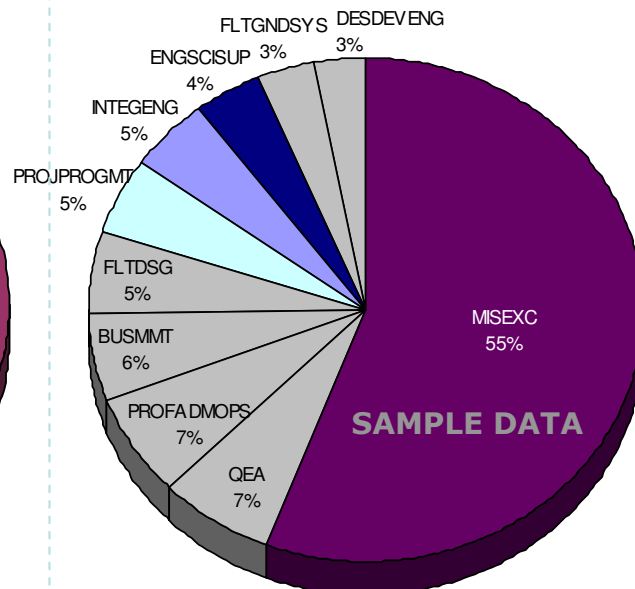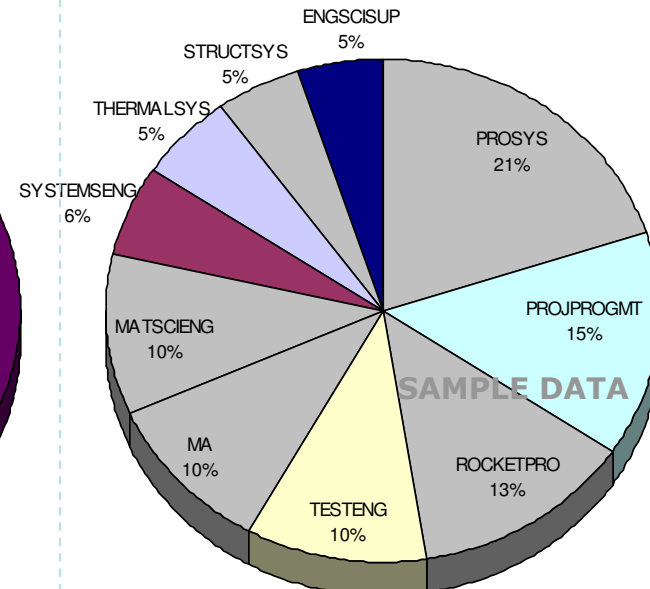
Expertise by Project
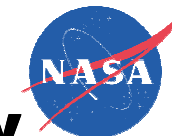
UPN 374 Shuttle Ground Operations

Competency		FTE
INTEGENG	Integration Engineering	78.4
SYSTEMSENG	Systems Engineering	70.1
TESTENG	Test Engineering	61
PROJPROGMT	Program/Project Management	35.1
MISEXC	Mission Execution	30.4
LOGSUPTRAN	Institutional Logistics, Supply and Transport	29
SWENG	Software Engineering	25.8
THERMALSYS	Thermal Systems	22
ENGSCISUP	Engineering and Science Support	21
AEROSEN	Sensors & Data Acquisition - Aeronautics	16.3
CRYOENG	Cryogenics Engineering	14.7
INSFACPLAN	Institutional Facilities Planning	14.05
CONMMT	Acquistion and Contract Management	12.55
PWRSYS	Power Systems	12.25
BUDGETMMT	Budgeting Management	10.4
ELSYS	Electrical and Electronic Systems	10.1
PROFADMOPS	Professional Administrative Operations	9
COMNETENG	Communication Networks & Engineering	6.9
DESDEVENG	Design and Development Engineering	5.6
NETSYS	Network Systems and Technology	4.25

UPN 375 Shuttle Flight Operations

Competency		FTE
MISEXC	Mission Execution	160.8
QEA	Quality Engineering & Assurance	19.2
PROFADMOPS	Professional Administrative Operations	19.2
BUSMMT	Business Management	16.4
FLTDSG	Mission Flight Design	14.95
PROJPROGMT	Program/Project Management	14.45
INTEGENG	Integration Engineering	13.8
ENGSCISUP	Engineering and Science Support	11.1
FLTGNDSYS	Flight and Ground Data Systems	9.5
DESDEVENG	Design and Development Engineering	9
BITSYS	Business IT Systems	9
AEROMED	Aerospace Medicine	7.9
PROJANALYSIS	Program/Project Analysis	6.93
CONMT	Acquistion and Contract Management	5.9
ADVTEC	Advanced Technical Training Design	3
SYSTEMSENG	Systems Engineering	3
NASALEADER	NASA Leadership Competency	2.75
ADVMIS	Advanced Mission Analysis	2
ACOUSTICS	Acoustics	2
TESTENG	Test Engineering	2

UPN 376 Space Shuttle Projects

Competency		FTE
PROSYS	Propulsion Systems & Testing	86.2
PROJPROGMT	Program/Project Management	61.76
ROCKETPRO	Rocket Propulsion	55.55
TESTENG	Test Engineering	44.9
MA	Mission Assurance	44.7
MATSCIENG	Materials Science and Engineering	43.2
SYSTEMSENG	Systems Engineering	25.6
THERMALSYS	Thermal Systems	23.35
STRUCTSYS	Structural Systems	21.55
ENGSCISUP	Engineering and Science Support	21.5
DESDEVENG	Design and Development Engineering	19.63
PROFADMOPS	Professional Administrative Operations	18.6
NONDESSCI	Non-destructive Evaluation Sciences	18.35
PROJANALYSIS	Program/Project Analysis	17.7
AEROTHM	Aerothermodynamics	17.2
BUSMMT	Business Management	16.52
CONMMT	Acquistion and Contract Management	13.4
MECHDUR	Mechanics and Durability	13.4
AETT	Advanced Experimentation and Testing Tech	11.1
MECHSYS	Mechanical Systems	10.75

SAMPLE DATA ONLY FOR ILLUSTRATIONS PURPOSES

Management through Competencies Overview

SES	P/PM	S/L	ST

succession mgmt

HIRE
RETRAIN
TRAIN
RELOCATE
MOVE WORK

RETRAIN
B/O – E/O
Directed Reassignments
Attrition Legislation

SATERN

3 Policy

IDP

SHORTAGES **GAPS** SURPLUSES CMS

2 Transfer of information to Center/HR

WIMS **Competency Needs**
Workforce/Budget Planning 1-5 Years

On-Board Competencies CMS
Current Position Competencies

1 Degree or Depth of competency

Competency Dictionary CMS

agency

National Aeronautics and Space Administration

Plan	Acquire and Sustain	Enable

UNDERSTAND MISSION REQUIREMENTS

ALIGN WORKFORCE WITH MISSION

ENABLE EFFECTIVE AND EFFICIENT OPERATIONS

- 7120.5

- PPBE

- Work Requirements
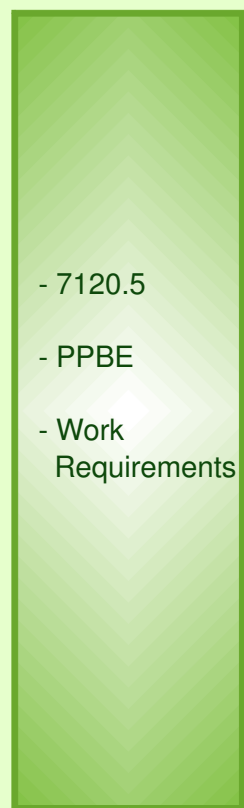
Workforce Implementation Plan

BUY → Procurement

Prog/Proj, S&E, Business Core

- Develop
- Retrain
- Reshape
- Transition
- Appraise

MAKE

- PERMS
- TERMS
- Education/ COOPS
- Pipeline

Competencies → CMS WIMS

Succession Management →
- SES
- ST
- SL

Leadership Development →
- SESCPD
- Mentoring
- LDP
- Supervisor

Career Paths →
- Formal Training
- IPA/Fellowship
- Mentoring
- Developmental Assignment

Performance Management

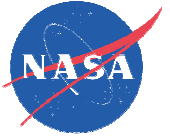Right People, Right Place, Right Time, Right Cost

ASSESS   REPORT   CHANGE

Human Capital Accountability System
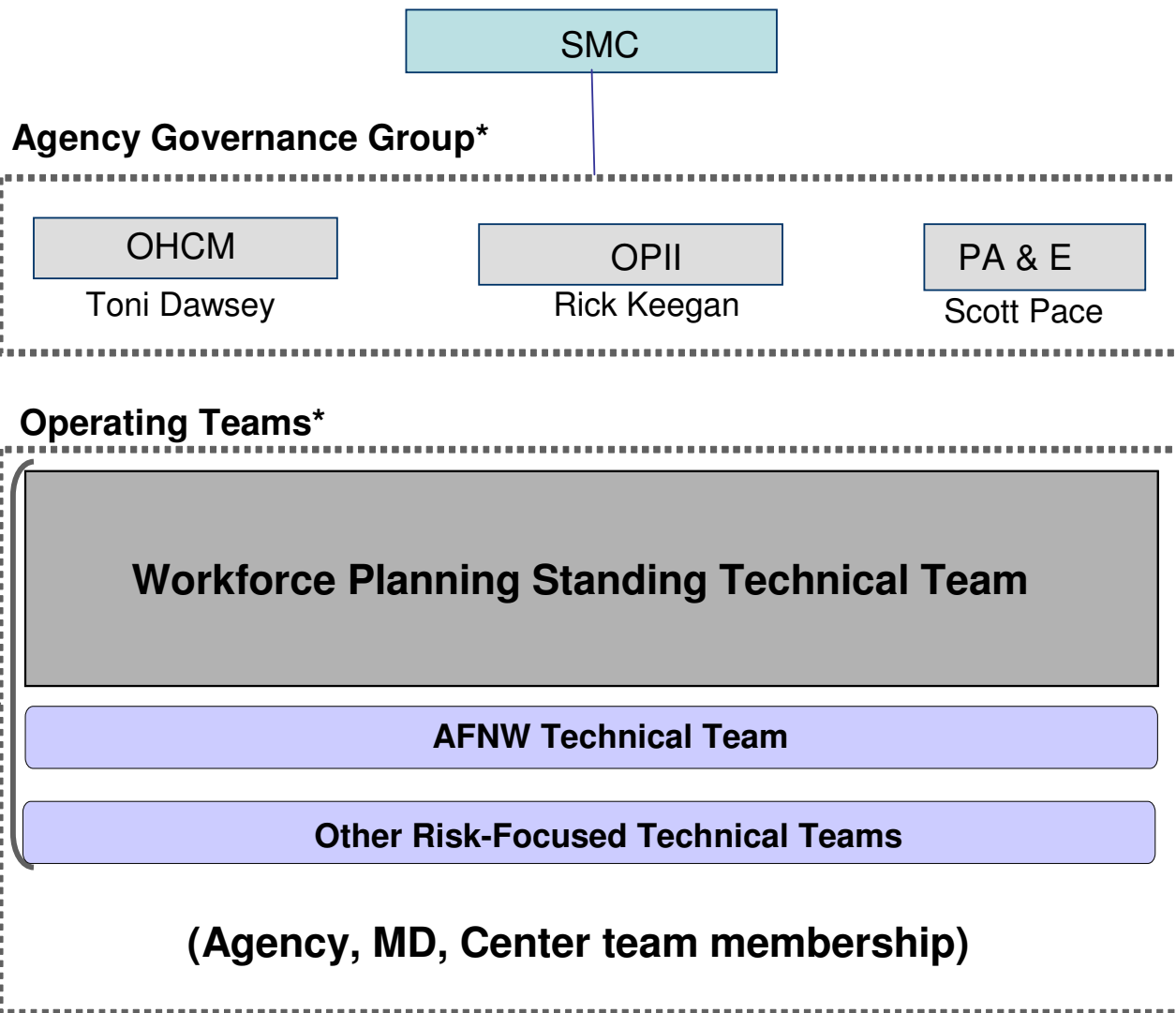*Center Review - HCIE - W/F Measures*

Back Up

Strategic Workforce Planning Governance Structure

Agency Governance Group*

SMC

OHCM	OPII	PA & E
Toni Dawsey	Rick Keegan	Scott Pace

Operating Teams*

Workforce Planning Standing Technical Team

AFNW Technical Team

Other Risk-Focused Technical Teams

(Agency, MD, Center team membership)

Agency Governance Group
- Surfaces high-risk issues and recommendations to senior management
- Evaluates result of planning activities and redirects resources and efforts to areas of highest priority
- Oversees progress of the operational groups and development of workforce planning capabilities

Operating Groups

WFP Standing Technical Team
- Design, develop and implement WFP guidance and policies
- Synthesize Center analyses to identify Agency workforce risks
- Develop Center WFP capabilities

Risk-Based Technical Teams
- Formed to address a specific issue or risk (e.g., uncovered capacity)
- Team established until issue resolved
- Members can be from WFP Standing team

* **OHCM** to take lead role in design, development, implementation and functioning of governance and operational groups

17
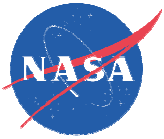
MAPPING THE SHUTTLE WORKFORCE

- A team of Headquarters and Center representatives is developing a mapping of the Shuttle workforce to Constellation Program work.

- This document will reflect the planned migration of the employees supporting the Shuttle Program to Constellation work, phased to correspond to key milestones in both programs.

- The first mapping is scheduled to be completed in mid-August.

- It will be iterated and refined regularly after that date, particularly as Constellation Program needs and the Shuttle flight manifest schedules are updated.